

WYOMING'S  
STATE  
of the  
ENVIRONMENT  
2018



WYOMING DEPARTMENT OF  
ENVIRONMENTAL  
QUALITY

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[deq.wyoming.gov](http://deq.wyoming.gov)

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# From our **Leadership**



Thank you for your interest in the Wyoming Department of Environmental Quality. By reading this report, you are showing your commitment to Wyoming and to learning more about the ways state government plays a role in safeguarding the environment. I share this interest. My wife, Jennie, and I raised our children here. On our ranch, we are committed to clean air, pristine water, vibrant ecological processes, biological diversity, and rich land that supports making a living, good jobs, and that special something that makes Wyoming what it is. While on the Environmental Quality Council, I saw firsthand the challenges that come with protecting the resources we all depend upon while encouraging a robust economy. We are blessed that Wyoming has exceptional natural resources and a strong economy, and we cherish both.

However, this does not happen by accident. The people who work at the Wyoming Department of Environmental Quality care deeply about what they do and are experts in their fields. Their diligence is reflected in the State of the Environment Report, which shows the great success and improvements the agency and other stakeholders have achieved. By working with the public, industry, and local and federal partners, I am certain that we will continue to make strides to protect, preserve and enhance a healthy environment for the benefit of Wyoming and its citizens.

**Governor Mark Gordon**

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The Wyoming Department of Environmental Quality is charged with ensuring that the state's environmental resources are protected and enhanced today and into the future. Wyoming is a wonderful place to live and recreate, and the DEQ's actions and projects play a key role in keeping it that way.

The "2018 State of the Environment" report highlights several DEQ accomplishments and achievements. This summary document provides insight into four primary areas: Air, Land, Waste, and Water. From improving our air quality monitors, reclaiming historic abandoned mines, achieving high compliance rates by the regulated community, and improving our ground and surface water throughout the state, DEQ continues to be a leader in environmental stewardship and protection.

Although we are proud of the accomplishments highlighted in this summary report, it is important to note that they represent only a portion of the achievements. Even with the tremendous work of DEQ staff, state and local parties, the regulated communities, and our many stakeholders, there are still many areas where we can improve.

In recent years, DEQ has seen an increased interest from citizens wanting to know more about who we are and what we do. Because of this engagement, we continue to improve our online presence by providing all public notices on our website, offering an electronic portal to comment on special projects and rules, and working toward making all documents electronic and accessible via our website.

Additionally, the agency has been a leader on various national issues, including the Clean Power Plan, the Stream Protection Rule, Waters of the U.S., coal reclamation and bonding, and the Abandoned Mine Land Program funding. We have ensured that Wyoming has been given an opportunity to provide our unique insight into these complex and important issues.

Thank you for your support, and we will continue these and other efforts to better serve Wyoming and its citizens in the coming year.

**Todd Parfitt**  
*Director of DEQ*

# Protecting our Environment

DEQ contributes to Wyoming's quality of life through a combination of monitoring, permitting, inspection, enforcement and restoration/remediation activities, which protect, conserve and enhance the environment while supporting responsible stewardship of our state's resources.

By minimizing pollution, enabling responsible economic development, and restoring previously polluted and contaminated sites, DEQ provides benefits not just to businesses, but to all citizens of Wyoming, as well as all visitors who benefit from the quality of life we share in this great state.



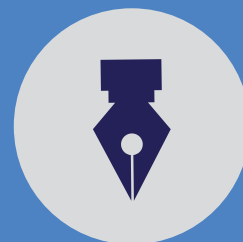
## Facts and figures about DEQ

- 265 employees
- 6 offices across Wyoming
- 7 divisions
- 5,000+ businesses served



## Spills managed in FY2018

- 305 spills addressed
- 21 complaints received and responded to



## Public records requests received since 2015

- 2015 - 513
- 2016 - 490
- 2017 - 614
- 2018 - 764



## Efficiency, transparency & paper reduction efforts

DEQ has scanned an estimated 2.5 million documents into electronic documents.

- Abandoned Mine Lands - 446,000
- Air Quality - 200,000
- Land Quality - 282,739
- Solid/Hazardous Waste - 1,374,560
- Water Quality - 228,500



## Bonding program

As of FY2018, the bonding program managed 1,253 bond instruments worth \$3.2B.

	Instruments	Bond amount
Land Quality	991	\$2.7B
Industrial Siting	5	\$101.3M
Hazardous Waste	33	\$252.5M
Solid Waste	100	\$27.4M
Water Quality	124	\$102.2M

# Cleaning our **Air**

DEQ's Air Quality Division implements programs designed to provide healthy air for people and the environment by keeping the skies clean and clear through permitting, monitoring, and compliance.

The agency permits, monitors, and inspects emissions from various sources, including oil and gas development, mining operations, power plants, refineries, and other sources that have potential to affect our air quality.

DEQ's air quality monitors, located throughout the state, evaluate how well air quality standards are being maintained.

## Emissions Reduction Efforts

### Upper Green River Basin

- 6,402 tons of volatile organic compounds (VOCs) reduced from 2008-2017 through permitting
- 1,651 tons of nitrogen oxides (NOx) reduced from 2008-2017 through permitting
- 5,500 hours of staff time committed to winter ozone forecasting

### Diesel Emission Reduction Program

- Replaced 47 diesel school buses with clean diesel or propane buses
- Annual reduction of 11 tons of NOx

### Large Facility (Title V) Emission Reductions

- Since 2008, NOx emissions from 115 large facilities have been reduced by 47,537 tons.

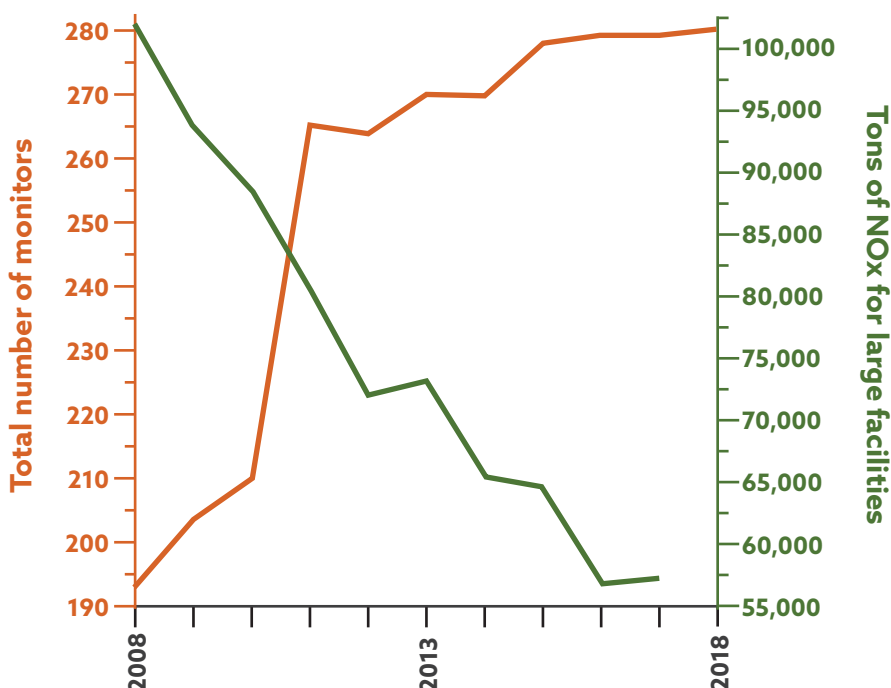
### Permitting

- New or modified permits issued in CY2018 - **1,169**
- Total AQD permits - **23,874**

### Compliance and Inspections

- Site visits and inspections in FY2018 - **1,603**
- Compliance rate for FY2018 - **98 percent**
- Facilities self audited in 2018 - **650**
- Tons of air pollution reduced through self-audits - **155**

## Monitoring & Emissions Reductions



\*Numbers as of December 2018

### For reference:

- A passenger car emits 18.32 lbs of NOx a year.\*
- A light-duty truck/SUV emits 25.11 lbs of NOx per year.\*
- Total NOx emissions reduced from large facilities in Wyoming since 2008 would equal emissions from 5.4 million cars or 3.9 million light trucks.

*\*Based on U.S. EPA Facts 2008 Document: "Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks"*



# Restoring our Land

The Land Quality Division ensures all current mining of mineral resources minimize impacts on the environment and that lands are properly reclaimed.

The Abandoned Mine Land Division works to eliminate safety hazards and repair environmental damage from historic mining activities prior to 1977.

The Industrial Siting Division (ISD) reviews and identifies the socio-economic and environmental impacts associated with major industrial development projects for consideration by the Industrial Siting Commission in their permit issuance determinations.

## Abandoned Mine Lands

### In 2018

**175**

Acres reclaimed as habitat and range land

**21**

Mine openings closed

**3,058**

Linear feet of highwalls remediated

**55,117**

Cubic yards of grout placed

**137**

Acres of re-stored land adjacent to streams

**577**

Employed under AML contracts

### Since 1977

**25,155**

Acres reclaimed as habitat and range land

**2,473**

Mine openings closed

**619,000+**

Linear feet of highwalls remediated

**500,000+**

Cubic yards of grout placed  
*\*equivalent to 8.6 football fields, 30 feet deep*

**127**

Miles of impaired streams restored

## Uranium Recovery Options & Becoming an Agreement State

On September 25, 2018, former Wyoming Governor Matt Mead signed an agreement with the United States Nuclear Regulatory Commission (NRC) that gave the Wyoming Department of Environmental Quality (DEQ) the authority to regulate uranium recovery operations within the state.

The NRC had previously maintained this authority. By managing the program at a state level, permitting redundancy will be eliminated and a high level of oversight will be maintained or improved.

With this approval, Wyoming became the 38th state to receive "Agreement State" authority. Additionally, the state became the first to obtain limited agreement for radioactive materials solely involved in uranium recovery operations. NRC continues to regulate the other radioactive material used throughout the state in settings such as laboratories, hospitals and universities.

## Land Quality Division

### Coal Mine Operations & Reclamation

- Reclamation activities include overburden earthwork and grading, top-soiling, seeding and final completion.
- Total acres disturbed – **184,488**
  - Acres of long-term support facilities – **37,835**
  - Acres in mine operation/reclamation – **146,653**
    - Acres in active mining operations – **39,689**
    - Acres in all phases of reclamation – **106,964**

### Mine Permits

- Total coal and non-coal permits – **769**

### Compliance and Inspections

- Compliance rate for FY2018 – **99 percent**
- Total inspections in 2018 – **780**

### ISD Permitting

- Five permits issued in 2018 – three wind and two transmission
- Four permits expected in 2019 – two wind and two transmission

# Managing our Waste

The Solid and Hazardous Waste Division (SHWD) protects the health and environment of Wyoming's current and future residents by ensuring proper management of solid and hazardous waste. The division additionally promotes reuse of materials for a sustainable future.

## Brownfield Projects

### Brownfields Assistance Program

Many communities in Wyoming have properties that are abandoned or underutilized because of known or suspected environmental contamination. These properties, known as "brownfields," may require cleanup before they are safe for reuse or redevelopment. The DEQ established the Brownfields Assistance (BA) program to help local governments and other eligible entities investigate, cleanup, and reuse brownfield properties.

### Remediation completed for 5 brownfield sites in 2018:

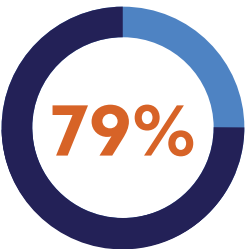
- **Former Tattoine Electronic Waste Recycling Facility** - Cheyenne, WY
  - Removed 215,000 pounds of electronic waste and hazardous glass
- **Former ACME Power Plant** - Sheridan, WY
  - Removed various wastes, including 60 drums of used oil or hazardous waste and 40 cubic yards of bulk asbestos located inside the former buildings
- **Union Pacific Railroad Depot** - Green River, WY
  - Removed asbestos and lead-based paint through BFP funds and the U.S Environmental Protection Agency cleanup grant
- **Future site of Cheyenne Children's Museum** - Cheyenne, WY
  - Removed 45 cubic yards of suspected contaminated soil
- **Peak Wellness** - Cheyenne, WY
  - Removed 900 cubic yards of contaminated soil

## Storage Tanks



### Compliance rate across Wyoming

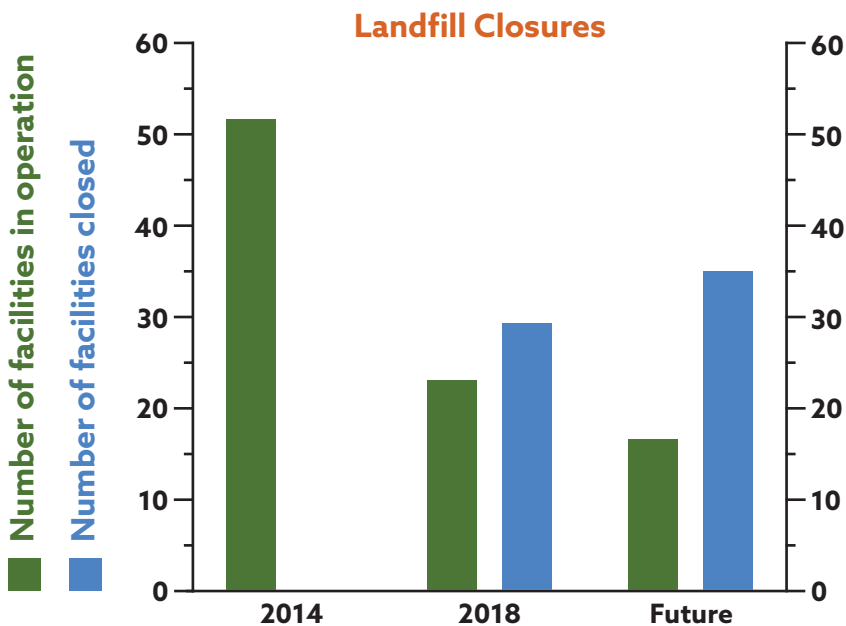
DEQ has achieved a 98% compliance rate for all active Storage Tank Facilities.



### Contaminated sites cleaned up since 1992

Since 1992, DEQ has cleaned up 1,290 contaminated sites and has 342 remaining.

## Landfills



## Cease & Transfer Program

### Projects funded

- As of October 15, 2018, 27 projects have been funded – 11 transfer stations and 16 landfill closures.

### Total funds

- Funds allocated from the State Loan and Investment Board totals \$41,269,890
  - \$36,096,555 allocated in grants
  - \$5,173,335 allocated in loans

\*Numbers as of December 2018

# Protecting our **Water**

DEQ's Water Quality Division works to protect Wyoming's water by permitting, inspecting, monitoring, and restoring surface water and groundwater in the state.

## Monitoring our Waterways in 2018

**19**  
**reservoirs**

### Encompassing:

- approximately 20,000 acres
- 95 sampling events

**17**  
**streams/  
rivers**

### Encompassing:

- 250 stream miles
- 151 sampling events

## Groundwater Investigations

### Formerly Used Defense Sites

- DEQ and federal partners worked with land owners to find acceptable clean-up methods for formerly used defense sites.
- There are currently 40 sites in Wyoming.
- Top priority sites for clean-up include those that have potential to affect drinking water supplies.

### Gillette-Madison Wellfield

- After receiving complaints of water quantity and quality with some private domestic water wells northeast of Moorcroft, DEQ began an investigation.
- The agency has sampled several wells and, through three working groups, investigated the cause of water quality and quantity effects on private wells. The working groups also are performing a review of well integrity.

### Pavillion Area

- DEQ and the Wyoming Oil and Gas Conservation Commission are leading this scientific investigation to address water quality concerns by evaluating the water quality of certain domestic water wells, the integrity of certain oil and gas wells, and historic pits in the Pavillion area.
- The state's investigation seeks to clarify water quality concerns and assess the need for any further action to protect drinking water resources.
- Currently, DEQ is finalizing a report (early 2019) regarding additional sampling recommendations, the historic pits, and well-bore integrity.

## Wastewater Discharge

### Permitting

- Permits issued in FY2018 - **1,079**

### Compliance and Inspections

- Compliance rate for FY2018 - **91 percent**
- Inspections in FY2018 - **670**

## Nonpoint Source Projects to Reduce Pollution in Streams

Wyoming's Nonpoint Source Program began working in 1999 through voluntary and incentive-based programs to protect and restore the quality of Wyoming's surface and ground water resources.

### Total Nonpoint Source Project Accomplishments:

- 164 projects funded
- \$39.9 million in grant and non-federal match funds
- 15 stream and river segments totaling more than 187 miles have been restored
- 2018: Nine projects funded
- 2018: A total of \$1,019,097 in grant funding was awarded to the nine new 2018 projects



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